

In the Claims:

Please cancel claims 1, 12, 27, 42 and 58 without prejudice or disclaimer.

Please rewrite claims 2-11, 13-26, 28-41, 43-57, 59-70 and 72-75 as follows:

B1 2. (Amended) The material of claim ~~1~~¹, wherein said samarium-aluminum complex oxide phase contains $\text{SmAl}_{11}\text{O}_{18}$ phase.

B2 ~~1~~ 3. (Amended) A material having a volume resistivity at room temperature of not higher than $1 \times 10^{13} \Omega \cdot \text{cm}$, said material being composed of an aluminum nitride sintered body containing samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent, said sintered body containing aluminum nitride phase and samarium-aluminum complex oxide phase, wherein said sintered body comprises aluminum nitride grains having a mean diameter of not lower than $3 \mu\text{m}$.

B3 ~~3~~ 4. (Amended) The material of claim ~~3~~¹, wherein the molar ratio of said converted content of samarium calculated as samarium oxide to a calculated content of aluminum oxide ($\text{Sm}_2\text{O}_3 / \text{Al}_2\text{O}_3$) is 0.05 to 0.5.

B3 ~~4~~ 5. (Amended) The material of claim ~~3~~¹, wherein said sintered body has an activation energy of temperature dependency of volume resistivity from room temperature to 300°C of not higher than 0.4 eV.

B4 ~~5~~ 6. (Amended) The material of claim ~~3~~¹, wherein said samarium-aluminum complex oxide phase forms a network microstructure.

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Cont'd 6/ (Amended) The material of claim 2, wherein said $\text{SmAl}_{11}\text{O}_{18}$ phase forms a network microstructure.

7/ 8. (Amended) The material of claim ~~3~~¹, wherein said sintered body has a lightness of not higher than N4 measured according to JIS Z8721.

B5 8/ 9. (Amended) The material of claim ~~3~~¹, wherein said sintered body contains one or more metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

9/ 10. (Amended) The material of claim ~~3~~¹, wherein said sintered body contains at least one second rare earth element other than samarium, and wherein the molar ratio of a converted content of said second rare earth element calculated as a rare earth oxide to said converted content of samarium calculated as samarium oxide is not higher than 2.0.

B6 10/ 11. (Amended) The material of claim ~~10~~⁹, wherein the molar ratio of a total of the converted contents of all of the rare earth elements calculated as rare earth oxides to a calculated content of aluminum oxide is 0.05 to 0.5.

B7 12/ 13. (Amended) The sintered body of claim ~~20~~¹¹, wherein said $\text{SmAl}_{11}\text{O}_{18}$ phase forms a network microstructure.

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B8 ~~13~~ 14. (Amended) The sintered body of claim ~~11~~ 20, wherein said sintered body has a volume resistivity at room temperature of not higher than $1 \times 10^{13} \Omega \cdot \text{cm}$.

~~14~~ 15. (Amended) The sintered body of claim ~~11~~ 20, further comprising at least one second rare earth element other than samarium, wherein the molar ratio of a converted content of said second rare earth element calculated as a rare earth oxide to said converted content of samarium calculated as samarium oxide is not higher than 2.0.

~~15~~ 16. (Amended) The sintered body of claim ~~14~~ 15, wherein the molar ratio of a total of the converted contents of all of the rare earth elements calculated as rare earth oxides to a calculated content of aluminum oxide is 0.05 to 0.5.

B9 ~~16~~ 17. (Amended) The sintered body of claim ~~14~~ 16, wherein said second rare earth element is one or more elements selected from the group consisting of yttrium, lanthanum, cerium, gadolinium, dysprosium, erbium and ytterbium.

~~17~~ 18. (Amended) The sintered body of claim ~~14~~ 17, further comprising a phase of a complex oxide of said second rare earth element and aluminum.

~~18~~ 19. (Amended) The sintered body of claim ~~11~~ 20, further comprising SmAlO_3 phase.

~~11~~ 20. (Amended) An aluminum nitride sintered body containing samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent, said sintered body containing aluminum nitride phase and $\text{SmAl}_{11}\text{O}_{18}$ phase, wherein said aluminum nitride

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sintered body comprises aluminum nitride grains with a mean diameter of not lower than 3 μm .

~~19~~ 21. (Amended) The sintered body of claim ~~20~~ ¹¹, wherein the molar ratio of said converted content of samarium calculated as samarium oxide to a calculated content of aluminum oxide ($\text{Sm}_2\text{O}_3 / \text{Al}_2\text{O}_3$) is 0.05 to 0.5.

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Could
~~20~~ 22. (Amended) The sintered body of claim ~~20~~ ¹¹, wherein said sintered body has a lightness of not higher than N4 measured according to JIS Z8721.

~~21~~ 23. (Amended) The sintered body of claim ~~21~~ ¹¹, further comprising one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

~~22~~ 24. (Amended) The sintered body of claim ~~23~~ ²¹, wherein said transition metal element is present in a content calculated as a metal element of not higher than 1.0 weight percent.

~~23~~ 25. (Amended) The sintered body of claim ~~23~~ ²¹, further comprising a crystalline phase of the nitride of said transition metal element.

~~24~~ 26. (Amended) The sintered body of claim ~~24~~ ¹¹, wherein said sintered body has an activation energy of temperature dependency of volume resistivity from room temperature to 300°C of not higher than 0.4 eV.

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~~26~~²⁸ (Amended) The sintered body of claim ~~30~~²⁵, wherein said sintered body has a volume resistivity at room temperature of not higher than $1 \times 10^{13} \Omega \cdot \text{cm}$.

~~27~~²⁹ (Amended) The sintered body of claim ~~30~~²⁵, wherein said samarium-aluminum complex oxide phase comprises $\text{SmAl}_{11}\text{O}_{18}$ phase with a network microstructure.

~~28~~³⁰ (Amended) The sintered body of claim ~~30~~²⁵, further comprising at least one second rare earth element other than samarium, wherein the molar ratio of a converted content of said second rare earth element calculated as a rare earth oxide to said converted content of samarium calculated as samarium oxide is not higher than 2.0.

~~29~~³¹ (Amended) The sintered body of claim ~~30~~²⁸, wherein the molar ratio of a total of the converted contents of all of the rare earth elements calculated as rare earth oxides to a calculated content of aluminum oxide is 0.05 to 0.5.

~~30~~³² (Amended) The sintered body of claim ~~30~~²⁸, wherein said second rare earth element is one or more elements selected from the group consisting of yttrium, lanthanum, cerium, gadolinium, dysprosium, erbium and ytterbium.

~~31~~³³ (Amended) The sintered body of claim ~~30~~²⁸, further comprising a phase of a complex oxide of said second rare earth element and aluminum.

~~32~~³⁴ (Amended) The sintered body of claim ~~30~~²⁵, further comprising SmAlO_3 phase.

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~~25~~ ~~35~~. (Amended) An aluminum nitride sintered body containing samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent, said sintered body containing aluminum nitride phase and samarium-aluminum complex oxide phase with network microstructure, wherein said aluminum nitride sintered body comprises aluminum nitride grains with a mean diameter of not lower than 3 μm .

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Content*
~~33~~ ~~36~~. (Amended) The sintered body of claim ~~35~~ ²⁵, wherein the molar ratio of said converted content of samarium calculated as samarium oxide to a calculated content of aluminum oxide ($\text{Sm}_2\text{O}_3 / \text{Al}_2\text{O}_3$) is 0.05 to 0.5.

~~34~~ ~~37~~. (Amended) The sintered body of claim ~~36~~ ²⁵, wherein said sintered body has a lightness of not higher than N4 measured according to JIS Z8721.

~~35~~ ~~38~~. (Amended) The sintered body of claim ~~37~~ ²⁵, further comprising one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

~~36~~ ~~39~~. (Amended) The sintered body of claim ~~38~~ ³⁵, wherein said transition metal element is present in a content calculated as a metal element of not higher than 1.0 weight percent.

~~37~~ ~~40~~. (Amended) The sintered body of claim ~~39~~ ³⁵, further comprising a crystalline phase of the nitride of said transition metal element.

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~~38~~ 41. (Amended) The sintered body of claim ~~35~~²⁵, wherein said sintered body has an activation energy of temperature dependency of volume resistivity from room temperature to 300°C of not higher than 0.4 eV.

~~40~~ 43. (Amended) The sintered body of claim ~~51~~³⁹, wherein the molar ratio of a total of the converted contents of all of the rare earth elements calculated as rare earth oxides to a calculated content of aluminum oxide is 0.05 to 0.5.

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~~41~~ 44. (Amended) The sintered body of claim ~~51~~³⁹, wherein said second rare earth element is one or more elements selected from the group consisting of yttrium, lanthanum, cerium, gadolinium, dysprosium, erbium and ytterbium.

~~42~~ 45. (Amended) The sintered body of claim ~~51~~³⁹, further comprising a phase of a complex oxide of said second rare earth element and aluminum.

~~43~~ 46. (Amended) The sintered body of claim ~~51~~³⁹, further comprising aluminum nitride phase and samarium-aluminum complex oxide phase.

~~44~~ 47. (Amended) The sintered body of claim ~~46~~⁴³, wherein said samarium-aluminum complex oxide phase comprises $\text{SmAl}_{11}\text{O}_{18}$ phase.

~~45~~ 48. (Amended) The sintered body of claim ~~46~~⁴³, wherein said samarium-aluminum complex oxide phase forms a network microstructure.

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~~46~~³⁹ 46. (Amended) The sintered body of claim ~~51~~³⁹, wherein said sintered body has a volume resistivity at room temperature of not higher than $1 \times 10^{13} \Omega \cdot \text{cm}$.

~~47~~³⁹ 47. (Amended) The sintered body of claim ~~51~~³⁹, further comprising SmAlO_3 phase.

~~39~~³⁹ 39. (Amended) An aluminum nitride sintered body comprising samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent and at least one second rare earth element other than samarium, wherein the molar ratio of a converted content of said second rare earth element calculated as a rare earth oxide to said converted content of samarium calculated as samarium oxide is not higher than 2.0, wherein said aluminum nitride sintered body comprises aluminum nitride grains with a mean diameter of not lower than $3 \mu\text{m}$.

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~~48~~³⁹ 48. (Amended) The sintered body of claim ~~51~~³⁹, wherein the molar ratio of said converted content of samarium calculated as samarium oxide to a calculated content of aluminum oxide ($\text{Sm}_2\text{O}_3 / \text{Al}_2\text{O}_3$) is 0.05 to 0.5.

~~49~~³⁹ 49. (Amended) The sintered body of claim ~~51~~³⁹, wherein said sintered body has a lightness of not higher than N4 measured according to JIS Z8721.

~~50~~³⁹ 50. (Amended) The sintered body of claim ~~51~~³⁹, further comprising one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

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~~51~~ ⁵⁰ (Amended) The sintered body of claim ~~51~~, wherein said transition metal element is present in a content calculated as a metal element of not higher than 1.0 weight percent.

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butal
~~52~~ ⁵⁰ (Amended) The sintered body of claim ~~51~~, further comprising a crystalline phase of the nitride of said transition metal element.

~~53~~ ³⁹ (Amended) The sintered body of claim ~~51~~, wherein said sintered body has an activation energy of temperature dependency of volume resistivity from room temperature to 300°C of not higher than 0.4 eV.

~~55~~ ⁵⁴ (Amended) The member of claim ~~51~~, wherein said sintered body has a volume resistivity at room temperature of not lower than $1 \times 10^8 \Omega \cdot \text{cm}$ and not higher than $1 \times 10^{13} \Omega \cdot \text{cm}$.

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~~56~~ ⁵⁴ (Amended) The member of claim ~~51~~, wherein said sintered body contains samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent and aluminum nitride phase and samarium-aluminum complex oxide phase.

~~57~~ ⁵⁶ (Amended) The member of claim ~~60~~, wherein said samarium-aluminum complex oxide phase comprises a $\text{SmAl}_{11}\text{O}_{18}$ phase.

~~58~~ ⁵⁶ (Amended) The member of claim ~~60~~, wherein said samarium-aluminum complex oxide phase forms a network microstructure.

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~~59~~ 65. (Amended) The member of claim ~~61~~ ⁵⁴, wherein said aluminum nitride sintered body contains samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent and at least one second rare earth element other than samarium, and wherein the molar ratio of a converted content of said second rare earth element calculated as a rare earth oxide to said converted content of samarium calculated as samarium oxide is not higher than 2.0.

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~~60~~ 64. (Amended) The member of claim ~~63~~ ⁵⁹, wherein the molar ratio of a total of the converted contents of all of the rare earth elements calculated as rare earth oxides to a calculated content of aluminum oxide is 0.05 to 0.5.

~~61~~ 65. (Amended) The member of claim ~~63~~ ⁵⁹, wherein said second rare earth element is one or more elements selected from the group consisting of yttrium, lanthanum, cerium, gadolinium, dysprosium, erbium and ytterbium.

~~62~~ 66. (Amended) The member of claim ~~63~~ ⁵⁹, further comprising a crystalline phase of a complex oxide of said second rare earth element and aluminum.

~~54~~ 67. (Amended) A member used for the production of semiconductors, wherein at least a part of said member is made of an aluminum nitride sintered body containing samarium, and said sintered body contains aluminum nitride grains with a mean diameter of not lower than 3 μm .

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63/ (Amended) The member of claim ~~61~~⁵⁴, wherein the molar ratio of said converted content of samarium calculated as samarium oxide to a calculated content of aluminum oxide ($\text{Sm}_2\text{O}_3 / \text{Al}_2\text{O}_3$) is 0.05 to 0.5.

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could* **64/** (Amended) The member of claim ~~61~~⁵⁴, wherein said sintered body has an activation energy of temperature dependency of volume resistivity from room temperature to 300°C of not higher than 0.4 eV.

65/ (Amended) The member of claim ~~61~~⁵⁴, further comprising a substrate made of said aluminum nitride sintered body and a metal member embedded in said substrate.

67/ (Amended) The member of claim ~~61~~⁵⁴, wherein said sintered body has a lightness of not higher than N4 measured according to JIS Z8721.

B13 **68/** (Amended) The member of claim ~~61~~⁵⁴, wherein said sintered body contains one or more transition metal elements selected from the group consisting of metal elements belonging to group IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

69/ (Amended) The member of claim ~~73~~⁶⁷, wherein said sintered body contains said transition metal element in a content calculated as a metal element of not higher than 1.0 weight percent.

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(Amended) The member of claim ~~75~~⁶⁸, wherein said sintered body contains a crystalline phase of the nitride of said transition metal element.

[Please add new claims 76-80 as follows:]

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(New) A material having a volume resistivity at room temperature of not higher than $1 \times 10^{13} \Omega \cdot \text{cm}$, said material being composed of an aluminum nitride sintered body containing samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent, said sintered body containing aluminum nitride phase and samarium-aluminum complex oxide phase,

wherein said aluminum nitride sintered body contains one or more metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

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(New) An aluminum nitride sintered body containing samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent, said sintered body containing aluminum nitride phase and $\text{SmAl}_{11}\text{O}_{18}$ phase,

wherein said aluminum nitrided sintered body comprises one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

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(New) An aluminum nitride sintered body containing samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent, said sintered body

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containing aluminum nitride phase and samarium-aluminum complex oxide phase with network microstructure,

wherein said aluminum nitride sintered body comprises one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

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(New) An aluminum nitride sintered body comprising samarium in a converted content calculated as samarium oxide of not lower than 0.04 mole percent and at least one second rare earth element other than samarium, wherein the molar ratio of a converted content of said second rare earth element calculated as a rare earth oxide to said converted content of samarium calculated as samarium oxide is not higher than 2.0,

wherein said aluminum nitride sintered body comprises one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

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(New) A member used for the production of semiconductors, wherein at least a part of said member is made of an aluminum nitride sintered body containing samarium, wherein said sintered body contains one or more transition metal elements selected from the group consisting of metal elements belonging to groups IVA, VA, VIA, VIIA and VIIIA of the Periodic Table, and in a content calculated as a metal element of not lower than 0.01 weight percent.

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